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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,820	03/22/2006	Torsten Ronn	20459-00397-US1	7410

30678 7590 02/03/2009

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EXAMINER	
WEBER, JONATHAN C	

ART UNIT	PAPER NUMBER
3641	

MAIL DATE	DELIVERY MODE
02/03/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/559,820	RONN ET AL.	
	Examiner	Art Unit	
	Jonathan C. Weber	3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Pursuant to the response filed on 13 November 2008, the amendments to the specification and abstract have been entered into the instant application. No claims have been cancelled, claims 1-20 remain pending in the instant application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. **Claim 1-20** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 directed to a device fails to provide any structure used to accomplish the tasks set forth in the claim, for example, "the liner is devised as being exposable for effect from the explosive charge or charges that are devised as being able to be initiated upon or shortly prior to the triggering of the main charge" fails to distinctly describe the structural relationships between the liner and the charges prior to initiation and fails to positively claim "the explosive charge or charges", "the liner" or "the main charge". A recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ2d 1647 (1987). Claims 2, 3, 4, 5, 7, 11, and 13 make reference to the device with specific reference to components mentioned in claim 1, but fail to further limit the claim, since the original structure has not been clearly claimed.

For instance, Claims 5, 7, and 13 refer to a series of surfaces whose exact relationship is unclear based on the lack of details regarding the initial structures from which the details depend.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1, 9 and 10** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,509,357 issued to Lawther (Lawther).

Regarding claim 1, as best interpreted in light of the aforementioned indefinite rejection, Lawther discloses a device to control material or fragment discharge from a primary or secondary liner in connection with triggering (In view of Figures 1-3D, See abstract), by initiation of a main charge (22, Figure 1) of an ammunition unit (In view of Figure 1) wherein the liner is exposable for effect from the explosive charge or charges that are devised as being able to be initiated upon or shortly prior to the triggering of the main charge (See abstract, Col. 5, lines 53-56) and wherein the explosive charge or charges obtain, upon initiation, a pre-deformation of the liner (Col 6, Lines 39-59 "The collapse of the liner 38 occurs over a shorter length because the slower portion of the explosive charge, that is, the annular part nearest the detonator 34, gets a head start in collapse toward the longitudinal axis 28") prior to the liner being affected by the triggering of the main charge for material or fragment

discharge (In view of Figures 3A-3C, Figure 3B shows the liner 38 deformed after initiation of the detonators 34 before the main charge reaches the liner).

Regarding claim 9, Lawther discloses wherein the liner is deformed upon initiation of the explosive charge or charges in a random manner over given cross sections (Inherently deformation of an object due to a blast or detonation would be random over given cross sections based on the blast wave propagation, intensity, etc.).

Regarding claim 10, Lawther discloses wherein concave and convex surfaces of the liner obtain wave forms in given cross section (Inherently the concave and convex surfaces of the liner would obtain wave forms in given cross sections, evidenced by Figure 3B).

2. **Claims 1-3, 5, 7, 9, 10, 13, and 16-20** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent 5,544,589 issued to Held (Held).

Regarding claim 1, as best interpreted in light of the aforementioned indefinite rejection, Held discloses a device to control material or fragment discharge from a primary or secondary liner (2 & 4, Figure 1) in connection with triggering, by initiation of a main charge (1, Figure 1) of an ammunition unit (Implicitly understood, warhead) wherein the liner is devised as being exposable for effect from the explosive charge or charges (5a-5e, Figure 2) that are devised as being able to be initiated upon or shortly prior to the triggering of the main charge (Col. 3, Lines 19-32) and wherein the explosive charge or charges obtain, upon initiation, a pre-deformation of the liner prior to the liner being affected by the triggering of the main charge for material or fragment discharge (Col. 3, Lines 19-32, in view of Figure 3).

Regarding claim 2, Held discloses wherein the explosive charge or charges are arranged at the front side of the liner at a periphery of the liner (In view of Figure 2).

Regarding claim 3, Held discloses wherein the explosive charge or charges are arranged at a periphery of the liner (In view of Figure 2) with an intermediary barrier (4, Figure 2).

Regarding claim 5, Held discloses wherein each explosive charge is formed with an exterior surface facing lengthwise to the main charge, and an angled surface, at the outer parts of the exterior surface facing a convex surface of the liner, that dilates itself outwards from the convex surface, leaving a central aperture in the ammunition unit's direction of flight that dilates outwards like a truncated cone (In view of Figure 3, the direction of flight is relative to how the ammunition unit was fired or launched).

Regarding claim 7, Held discloses wherein each explosive charge or charges begin from the exterior circumference of the barrier with parallel interior and exterior surfaces and are arranged with an end surface extending perpendicular to the interior and exterior surfaces and the interior and exterior surfaces allow a central aperture that extends cylindrically from the convex surface of the liner in the ammunition unit's direction of flight (In view of Figures 1-3).

Regarding claim 9, Held discloses wherein the liner is deformed upon the initiation of the explosive charge or charges in a random manner over given cross sections (Inherently deformation of an object due to a blast or detonation would be random over given cross sections based on the blast wave propagation, intensity, etc).

Regarding claim 10, Held discloses wherein concave and convex surfaces of the liner obtain wave forms in given cross sections (Inherently variations between convex and concave surfaces of the liner would cause wave forms in given cross section after detonation).

Regarding claim 13, Held discloses wherein each explosive charge or charges begin from the exterior circumference of the barrier with parallel interior and exterior surfaces and are arranged with an end surface extending perpendicular to the interior and exterior surfaces and the interior and exterior surfaces allow a central aperture that extends cylindrically from the convex surface of the liner in the ammunition unit's direction of flight (In view of Figure 3, the direction of flight is relative to how the ammunition unit was fired or launched).

Regarding claim 16, Held discloses wherein the liner is deformed upon the initiation of the explosive charge or charges in a random manner over given cross sections (Inherently deformation of an object due to a blast or detonation would be random over given cross sections based on the blast wave propagation, intensity, etc).

Regarding claim 17, Held discloses wherein the liner is deformed upon the initiation of the explosive charge or charges in a random manner over given cross sections (Inherently deformation of an object due to a blast or detonation would be random over given cross sections based on the blast wave propagation, intensity, etc).

Regarding claim 18, Held discloses wherein the liner is deformed upon the initiation of the explosive charge or charges in a random manner over given cross

sections (Inherently deformation of an object due to a blast or detonation would be random over given cross sections based on the blast wave propagation, intensity, etc).

Regarding claim 19, Held discloses wherein concave and convex surfaces of the liner obtain wave forms in given cross sections (Inherently variations between convex and concave surfaces of the liner would cause wave forms in given cross section after detonation).

Regarding claim 20, Held discloses wherein concave and convex surfaces of the liner obtain wave forms in given cross sections (Inherently variations between convex and concave surfaces of the liner would cause wave forms in given cross section after detonation).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,509,357 issued to Lawther (Lawther).

Regarding claim 11, Lawther discloses wherein the ammunition unit is a missile or a projectile ("26 – munition skin", makes reference to ammunition, which is a projectile with its fuse, propelling charges, or primers fired from guns, or alternatively, "20 – dual operating mode warhead", the definition of warhead according to Merriam Webster's Online Dictionary is the section of a missile containing the explosive,

chemical, or incendiary charge, therefore, the reference implicitly discloses that the ammunition unit is a missile or a projectile).

4. **Claim 4, 6, 8, 11, 12, 14, and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,544,589 issued to Held (Held).

Regarding claim 4, Held discloses the claimed invention except for using 1mm of neoprene and 4mm of lead for the barrier layer. It would have been obvious matter of design choice to created the barrier layer from neoprene and lead, since applicant has not disclosed that using such an arrangement of layers in the barrier solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with other materials used in these layer, as evidenced in the specification at page 7, "Alternative Embodiments".

Regarding claim 6, Held discloses wherein the divergent fragment or material discharge, resulting from main charge initiation, is given small angles of dispersion, within the range of 0.4-9 degrees (Col. 1, Lines 52-60). Held discloses the claimed invention except for low velocities, near 540-925 m/s. It would have been an obvious matter of design choice to select a main charge size or composition that would cause the fragment or material discharge to have velocities in this range, since applicant has not disclosed that such a range of velocities solves any stated problem or is for any particular purpose and it appears the invention would perform equally well with higher or lower velocity ranges.

Regarding claim 8, Held discloses wherein divergent material or fragment discharge, resulting from the initiation of the main charge, obtains angles of dispersion

between 5.0-34 degrees (Col. 1, Lines 52-60). Held discloses the claimed invention except for low velocities, near 380-650 m/s. It would have been an obvious matter of design choice to select a main charge size or composition that would cause the fragment or material discharge to have velocities in this range, since applicant has not disclosed that such a range of velocities solves any stated problem or is for any particular purpose and it appears the invention would perform equally well with higher or lower velocity ranges.

Regarding claim 11, Held discloses wherein the ammunition unit is a missile or a projectile ("warhead" the definition of warhead according to Merriam Webster's Online Dictionary is the section of a missile containing the explosive, chemical, or incendiary charge, therefore, the reference implicitly discloses that the ammunition unit is a missile or a projectile).

Regarding claim 12, Held discloses wherein the divergent fragment or material discharge, resulting from main charge initiation, is given small angles of dispersion, within the range of 0.4-9 degrees (Col. 1, Lines 52-60). Held discloses the claimed invention except for low velocities, near 540-925 m/s. It would have been an obvious matter of design choice to select a main charge size or composition that would cause the fragment or material discharge to have velocities in this range, since applicant has not disclosed that such a range of velocities solves any stated problem or is for any particular purpose and it appears the invention would perform equally well with higher or lower velocity ranges.

Regarding claim 14, Held discloses wherein divergent material or fragment discharge, resulting from the initiation of the main charge, obtains angles of dispersion between 5.0-34 degrees (Col. 1, Lines 52-60). Held discloses the claimed invention except for low velocities, near 380-650 m/s. It would have been an obvious matter of design choice to select a main charge size or composition that would cause the fragment or material discharge to have velocities in this range, since applicant has not disclosed that such a range of velocities solves any stated problem or is for any particular purpose and it appears the invention would perform equally well with higher or lower velocity ranges.

Regarding claim 15, Held discloses wherein divergent material or fragment discharge, resulting from the initiation of the main charge, obtains angles of dispersion between 5.0-34 degrees (Col. 1, Lines 52-60). Held discloses the claimed invention except for low velocities, near 380-650 m/s. It would have been an obvious matter of design choice to select a main charge size or composition that would cause the fragment or material discharge to have velocities in this range, since applicant has not disclosed that such a range of velocities solves any stated problem or is for any particular purpose and it appears the invention would perform equally well with higher or lower velocity ranges.

Response to Arguments

Applicant's arguments filed 13 November 2008 have been fully considered but they are not persuasive. The applicants' argument that the liner is not pre-deformed as required according to the present any separate pre-charges, does not make sense

since the claims do not reference "pre-charges" instead they mentioned "main charge" and "explosive charges or charges", additionally, pre-deformation after detonation refers to an intended use and not the details of the structure itself that distinguish such a device from the prior art. The examiner would also like to direct the applicants' attention to column 6, lines 39-59 "The collapse of the liner 38 occurs over a shorter length because the slower portion of the explosive charge, that is, the annular part nearest the detonator 34, gets a head start in collapse toward the longitudinal axis 28", which basically states that before the main charge reaches the liner the charge surrounding the liner causes a pre-deformation of the liner in the form of a collapse toward the longitudinal axis of the device and Figures 3A-3C, where Figure 3B shows the liner 38 deformed after initiation of the detonators 34 before the main charge reaches the liner, clearly indicating a "pre-deformation" of the liner.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan C. Weber whose telephone number is (571)270-5377. The examiner can normally be reached on Monday-Friday 8:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on (571)272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. C. W./
Examiner, Art Unit 3641

/Troy Chambers/

Primary Examiner, Art Unit 3641